

The Health Benefits of RED WINE

*OPC, nature's
most powerful
anti-oxidant, is
wonderfully
abundant in the
skins and seeds
of grapes.*

*Could this be the
secret of the
"French
Paradox"?*

Part 2

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VITAMIN C AND CHOLESTEROL

The elimination of excessive cholesterol by the liver calls for a rather important enzymatic process, during which cholesterol is transformed into bile salts. This process of elimination occurs under the influence of vitamin C. Hence, the less vitamin C available, the slower the elimination of cholesterol.

This effect of vitamin C on cholesterol catabolism was proven by E. Ginter in a test performed on two groups of guinea pigs. (See Figure 1.) One group received a vitamin C-deficient diet (0.5 mg per 24 hours); the second group received a diet that contained 10 mg per 24 hours. Per one day, that second group of guinea pigs transformed 23.6 mg of cholesterol into eliminable bile salts. The C-deficient group transformed only 16.6 mg of cholesterol—a decrease of 30%. The cholesterol level in the blood of the high-C group was 126 mg per 100 g; that of the low-C group was 218 mg per 100 g.

LDL AND HDL

A word of caution to those who think that the avenues to plates full of meat, eggs and cheese are now wide open as long as they take some vitamin C with it. Cholesterol comes in two forms: a high-density form (HDL) and a low-density form (LDL).

The LDL cholesterol isn't very good because it behaves itself as a free radical, and it is the stuff that sticks to the vascular wall. We don't want to have too much LDL roaming around in our bloodstream.

The right answer is not a lowering of cholesterol in the diet, since the LDL form will be created anyway. The correct answer is a diet full of antioxidants, such as that same vitamin C and OPC that neutralise the LDL and prevent it from harming our cardiovascular system.

VITAMIN C AND OPC: IMMORTAL TWINS

For Prof. Jack Masquelier and his colleagues it had not come as a surprise that the elimination of cholesterol degradation was enhanced by OPC. "Once again," he explains, "we came across the phenomenon that OPC boosts the action of vitamin C."

To prove that OPC fully satisfies the definition of vitamin C's co-factor, Masquelier and his colleagues really put OPC to the test in 1976.

Guinea pigs are just as dependent on the supply of vitamin C in foods as are humans. They therefore react to a scurvy diet, and the daily dosage can be determined for the normal survival of guinea pigs. (See Figure 2.)

Whenever the test animals were administered sub-optimum dosages of vitamin C, it appeared they couldn't cope as well as laboratory animals that received the optimum dosages. However, when the sub-optimum dosages were supplemented with OPC, the animals were perfectly capable of survival. In this way, Masquelier was able to monitor the survival of the guinea pigs that were given very small quantities of ascorbic acid but sufficient quantities of OPC.

With this test it was conclusively demonstrated that OPC has a vitamin C sparing effect. This means that foods rich in OPC make more vitamin C available, and that all bodily functions in need of this vitamin—including important processes such as the elimination of cholesterol—can be more readily carried out.

"If we were wise enough," says Masquelier, "to take an OPC tablet every time we take a vitamin C tablet, we would not need to consume as much ascorbic acid. Our test demonstrated that if you administer OPC and vitamin C you can decrease the dosage of vitamin C tenfold."

FIGURE 1: The effect of vitamin C on cholesterol catabolism in guinea pigs tested.

DIET OF GUINEA PIGS	VITAMIN C MG/100G		CHOLESTEROL MG/100G		CHOLESTEROL TRANSFORMED INTO BILE SALTS MG/24H/KG
	LIVER	BILE	BLOOD	LIVER	
NORMAL 10 MG VIT.C/24H	8.2	21.6	126	359	23.6
DEFICIENT 0.5 MG VIT.C/24H	1.6	4.7	218	443	16.6

REMARKABLE RESULTS OF NEW STUDY

Intrigued by this relatively new aspect of the French Paradox, Dr Serge Renaud, of the French National Institute of Health and Medical Research, decided to find out what was the relation between wine and platelet aggregation. From Professors Brun and Bourzeix of the French National Agronomical Research Institute in Narbonne, Renaud obtained samples of standardised normal wine (with 6% alcohol), and of wine without

alcohol. He also contacted Masquelier and obtained grape seed extract from Centre Expérimentation Pharmaceutique (CEP).

Dr Renaud then separated his test animals into several groups and let them have free access to water (control group), red wine, white wine, and several beverages he concocted—such as water with 6% alcohol, and water with 6% alcohol plus 0.03% grape seed extract added to it (the OPC level of red wine).

Using pure water for his control group, Renaud measured, amongst other things, the effects of the drinking of alcohol+water, white wine and red wine on platelet aggregation and the rebound effect. As expected, he found that all alcoholic beverages reduced platelet aggregation. By contrast, when these same animals were deprived of their alcoholic beverages for 18 hours, a marked rebound effect of +124% was observed in the water+alcohol group; a moderate increase of 46% was found in the white wine group; but no rebound at all was found in the red wine group, since aggregation was still reduced by 59% as compared to the pure water group! (See Figure 3.)

THROMBOSIS

Cardiovascular integrity does depend on an unimpeded blood flow through the vascular system, especially through the heart muscle and the brain. One of the circulation-impeding mechanisms is blood clotting or thrombosis.

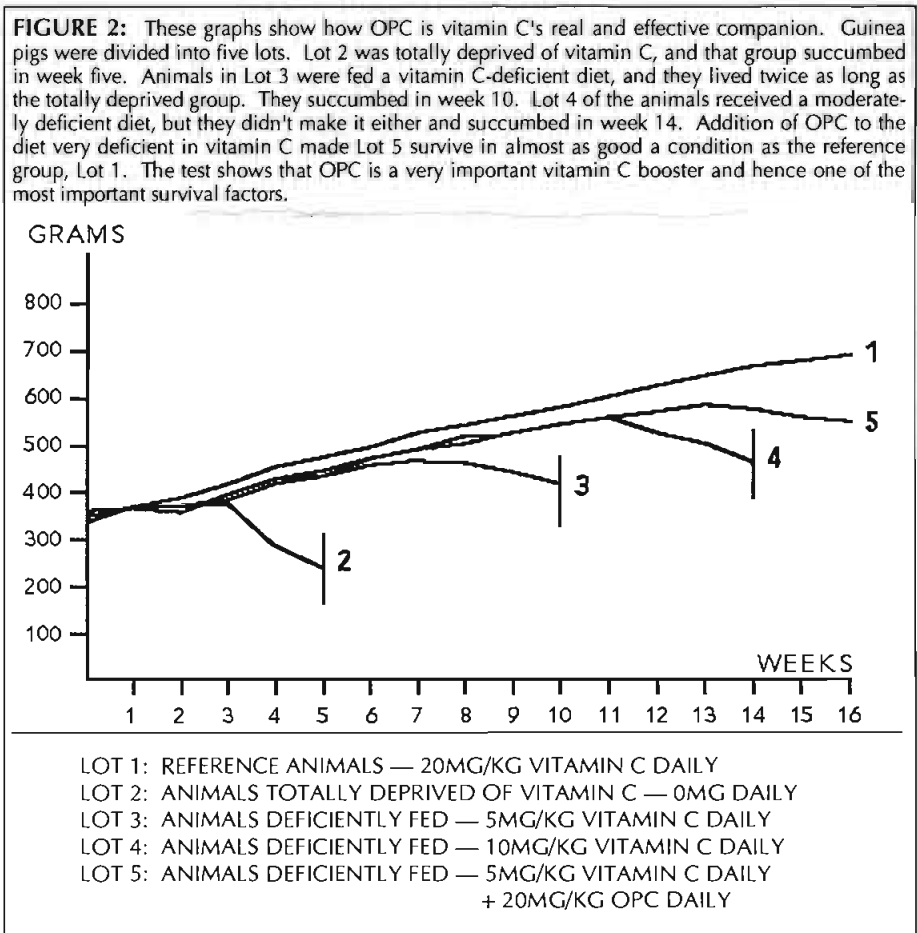
Thrombosis is a lifesaving mechanism in the case of wounds. Should the blood not clot, we would bleed to death. But sometimes the blood has difficulties differentiating between a real wound (trauma) and a pathological 'wound' such as extensive plaque formation, inflamed capillaries and other abnormal vascular conditions. Such conditions form the perfect ground for initiating the clotting of the blood.

A clot consists of fibrin threads that are bonded together under the aggregating (clotting) influence of the so-called blood platelets. In pathological cardiovascular conditions, the formation of blood clots mostly forms the onset of a severe crisis such as stroke or cardiac arrest.

THE REBOUND EFFECT

It has been found that the use of alcohol can strongly reduce the tendency of platelets to aggregate and contribute to blood clotting. As such, alcohol reduces the risk of thrombosis. Platelet aggregation can be decreased by as much as 70%! One could say that this effect would speak for the liberal and uninhibited intake of alcoholic beverages. However, it has also been established that the risk of thrombosis increases during the hours after drinking. This is called the platelet rebound effect. The rebound sometimes more than doubles the tendency of platelets to aggregate! This is why the alcohol-induced platelet rebound effect has been associated with increased risks of thrombosis, sudden death and stroke, especially in groups of so-called 'binge' drinkers.

In 'binge' drinking, people intentionally seek to achieve a state of drunkenness. Although normal use of alcoholic beverages has nothing to do with binge drinking, one should always count on the fact that the enjoyment of even moderate amounts of alcohol may have a downside in terms of the after-drinking rebound effect. The platelet rebound effect has been the subject of quite a few studies. Not to our surprise, the effect was not found in French farmers who tend to drink more wine than other alcoholic beverages such as beer and spirit.



WATER + ALCOHOL + OPC

Renaud also tested red wine against a red wine 'replica' made out of water, alcohol and CEP's grape seed extract (OPC). The inhibitory effect on platelet aggregation that continues during the hours after drinking, could be completely reproduced by the 'replica' that contained as much OPC as the red wine (0.03%). Due to the OPC, the rebound effect is completely undercut, while platelet aggregation remains at the reduced level when the drinking stops. The OPC stands for the difference between a 124% increase (water+alcohol) and a 59% decrease (water+alcohol+OPC)—a total difference of 183%!

OPC KILLS PARADOX AND LETS FRENCH LIVE LONGER

No wonder that the French—at least the French wine-drinkers—have a 30% to 40% lower risk for coronary heart disease than people who normally do not drink wine but liquor or beer.

The beneficial effect of wine has such an enormous impact on health statistics that, by early 1995, French women reached the highest life expectancy in the world—and the men are doing almost as well.

Even though perhaps the whole scientific truth has not yet been established, we take our chances in saying that it must be the OPC that pushes French statistics to such healthy levels.

OPC takes care of vascular integrity (biosynthesis, permeability and elasticity). It also takes care of proper elimination of cholesterol and inhibition of cholesterol deposits on the vascular wall's elastin. In addition to this, OPC inhibits formation of the plaque-forming cholesterol and the platelet aggregation rebound effect. And apart from that, OPC may well play a beneficial role against cancer.

RED WINE AND CANCER

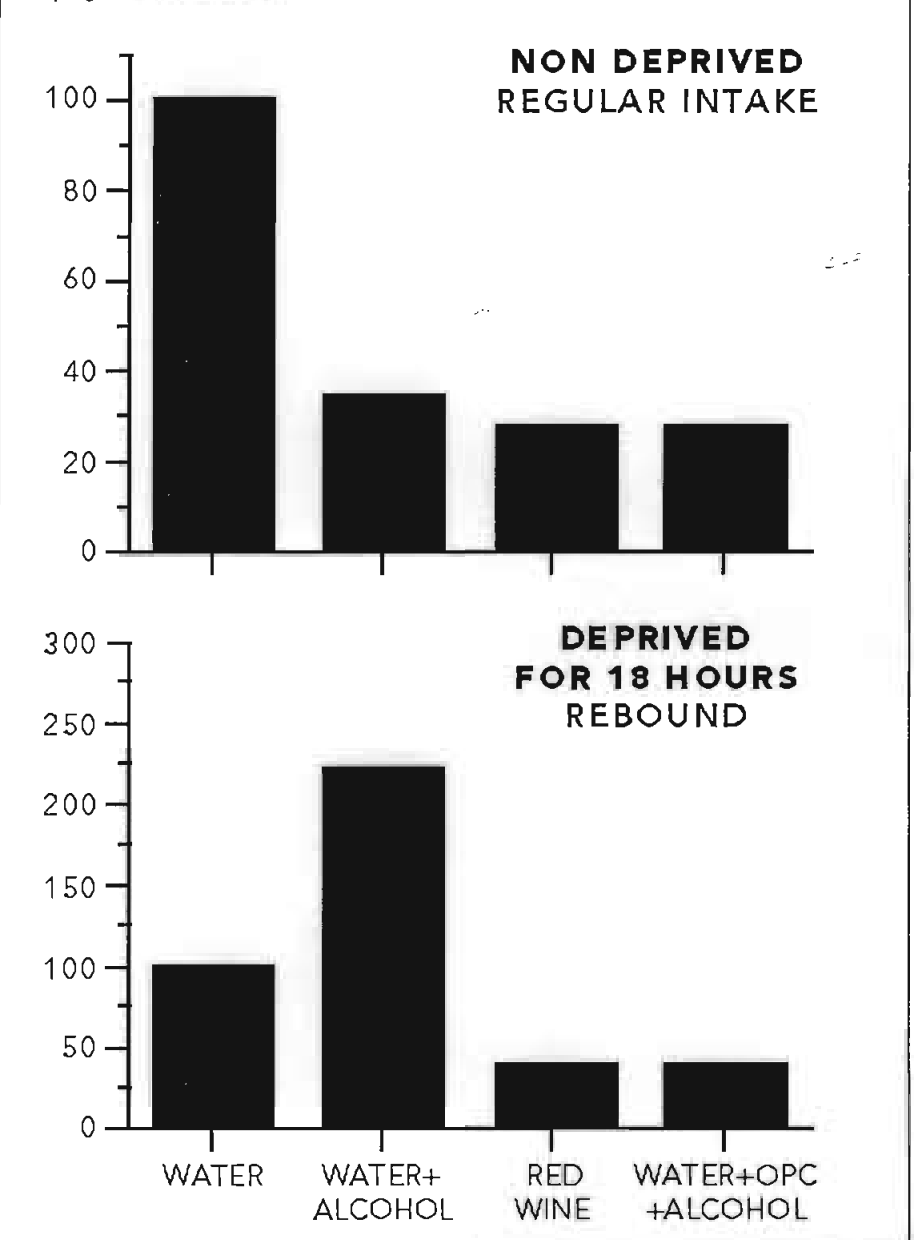
Although the relationship between wine and cancer was not the subject of Dr Renaud's study, he alludes to this anti-cancer effect where he mentions in his introduction that a moderate intake of wine was related to a protective effect of 20% to 50% in oral and pharyngeal cancers. This effect was not shared by other alcoholic beverages.

Masquelier confirms that the French scientific community is developing an intense interest in the relationship between wine, OPC and cancer.

As one of the possible biological anti-cancer mechanisms that come into play, Masquelier explains that "it is widely known that cancers will spread more rapidly and the number of secondary tumours will increase if the living organism is fatigued or stressed. This is because of the organism's inability to offer resistance to the cancer cells.

"Some types of cancer form invasive metastases (secondary tumours) by secreting protein-splitting enzymes that dissolve the

FIGURE 3: WATER, ALCOHOL, WINE, OPC AND THE REBOUND EFFECT
Platelet aggregation, comparing water+alcohol (2nd bar), red wine (3rd bar) and water+alcohol+OPC (4th bar) to pure water (1st bar=100). Measurements were taken amongst the test animals during regular intake (top), and in the rebound period, 18 hours after intake (bottom). During regular intake, aggregation drops for all three drinks. After 18 hours of deprivation, the water+alcohol dramatically rebounds with a 124% increase, while red wine and water+alcohol+OPC remain at the 59% decrease level, totally escaping the rebound effect.



fundamental substances surrounding tissues and cells. We know that OPC protects proteins against such proteolytic enzymes. For example, breast cancer is a type of cancer that spreads via secondary tumours by producing proteolytic enzymes. So it seems logical to administer OPC as soon as breast cancer is diagnosed, to prevent secondary tumours developing. This would be a direct action of OPC against cancer.

"I am not an oncologist. But I do think that it is one of the applications of OPC which deserves to be more widely known. I'm aware that in speaking of cancer, it is easy to instil false hope into cancer patients. Learning about a new medicine could well revive all the lost hope. So it is the medical world that I am addressing."

PARADOX NO. 2

"Research has already shown that if one or two grams of vitamin C is administered every 24 hours to cancer patients in the final stages of the disease, this will delay death. This has been shown by Linus Pauling and his successors in hundreds of cancer patients, and it has been verified in double-blind studies. The administration of large amounts of vitamin C has already been proven. Because OPC is vitamin C's co-factor and is responsible for a better activity of this vitamin in our organs, it seems perfectly coherent to me that we should not delay the making of OPC into one of the weapons in the fight against this terrible disease.

"I would also like to add that, in France, a team has been set up to investigate the relationship between wine and cancer. The study was initiated by the University in Aix-en-Provence. I was asked to participate because they know my work and believe I can lend insight in that area. They are studying the relationship between wine and cancer, and they suspect that the consumption of wine, which is rich in OPC, can play a protective role against cancer in a large section of the population.

"The French Paradox has been limited to the realm of vascular diseases. But I think



Professor Jack Masquelier

that, in terms of cancer, we could well speak of a second French Paradox: would the group of French people who consume alcohol in the form of red wine show a lower mortality rate from cancer than others? I'm not familiar with the figures, but I think it would make an interesting topic of study."

EXIT FRENCH PARADOX

What still remains paradoxical in the French Paradox may be interesting food for

thought for scientists. "Science," says Masquelier, "is perpetually perfecting itself, and that is what makes it interesting."

We will certainly hear more about the French Paradox, if only because the French take much pride in their national culture, their wine and their health statistics. Each time we will find that it is OPC, be it in the form of one of Masquelier's extracts or in the form of red wine, that protects its users while 'killing' the Paradox. ∞

About the Author:

Bert Schwitters was born in Holland in 1945. He started his journalistic career producing and directing documentary programs for Dutch television. He is the author of several non-fiction books, dealing with subjects such as Interpol, psychiatry and human health.

Since 1980, Bert Schwitters has focused attention on health, particularly 'orthomolecular' nutrition. Through his work he has come to know many innovators in the fields of mental and physical health. Due to these contacts, and as a consequence of his investigations of several different medical, philosophic, social and religious theories, he has become an independent supporter of alternative ways to health.

